

On the conjugation of *Peridea trepida* (with plate).

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Students of the male ancillary appendages of lepidoptera are familiar with certain small spines [*cornuti* (misprint for *cornuli*?) of Pierce], very varied in form, size, arrangement and number, that arm the eversible membrane (*vesica* of Pierce) of the ædæagus. It is also very generally known that in a few cases these *cornuli* in conjugation, break away from the vesical membrane, and are left behind in the bursa of the female. I have obtained specimens and photographs illustrating this fact in several species, and have hopes of enlarging the series.

However, *ars longa*, and I may not attain to being able to set forth the subject in any definite order; indeed, the cases so far known to me are distributed erratically in various totally unrelated families, and a due co-ordination of these must mean a long and wide research. It seems, therefore, not undesirable to set forth one of the most remarkable of these cases, with a view to interesting a larger number of observers in the subject.

I owe to Mr. Burrows the knowledge that the ædæagus of *P. trepida* contained a collection of star-like bodies. An examination of a number of specimens showed that these very curious bodies were swimming quite free in a dilatation of the eversible tube in the ædæagus of ♂ specimens of *P. trepida* that had never paired, but that they were absent from those individuals that had paired. Further, that in females that had paired, the bursa contained a swarm of these bodies, which were quite absent in the case of virgin females.

As most specimens of *P. trepida* in collections are bred, it was less easy to obtain specimens that had paired than in the case of many other insects.

There can be no doubt that these little stellate bodies of dark chitin, with their five to eight rays, are identical in all respects with Pierce's *cornuli*, are in fact *cornuli*, yet they are unattached. It would probably be safe to assume that, at a date earlier than the complete maturity of the male moth, these *cornuli* have an attachment as in other cases, but certainty can only be attained by examining moths in different stages of development before they emerge from the pupa.

Probably other species of *Peridea* are similarly provided; these I have had no opportunity of examining, but I have examined a large number of other Notodonts without meeting, not merely with any similar arrangement, but with anything that could be supposed to be any stage in the evolution of this remarkable arrangement.

The photographs show a portion of the ædæagus of *P. trepida* ♂, crowded with these caltrop-like engines $\times 45$ (pl. iii., fig. 2). The other shows the bursa of the ♀, containing a large number of the same structures; this is only magnified 20 diameters (pl. iii., fig. 1). I do not figure these same organs devoid of these irritating particles, for the simple reason that they practically show nothing; yet it is perhaps necessary to say that I have found several specimens of these also.

These remarkable structures occurring nowhere else amongst the species with which *trepida* has been associated by Kirby, Meyrick, Hampson, Staudinger, etc. (*i.e.*, with *dromedarius*, *dictava* and other

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